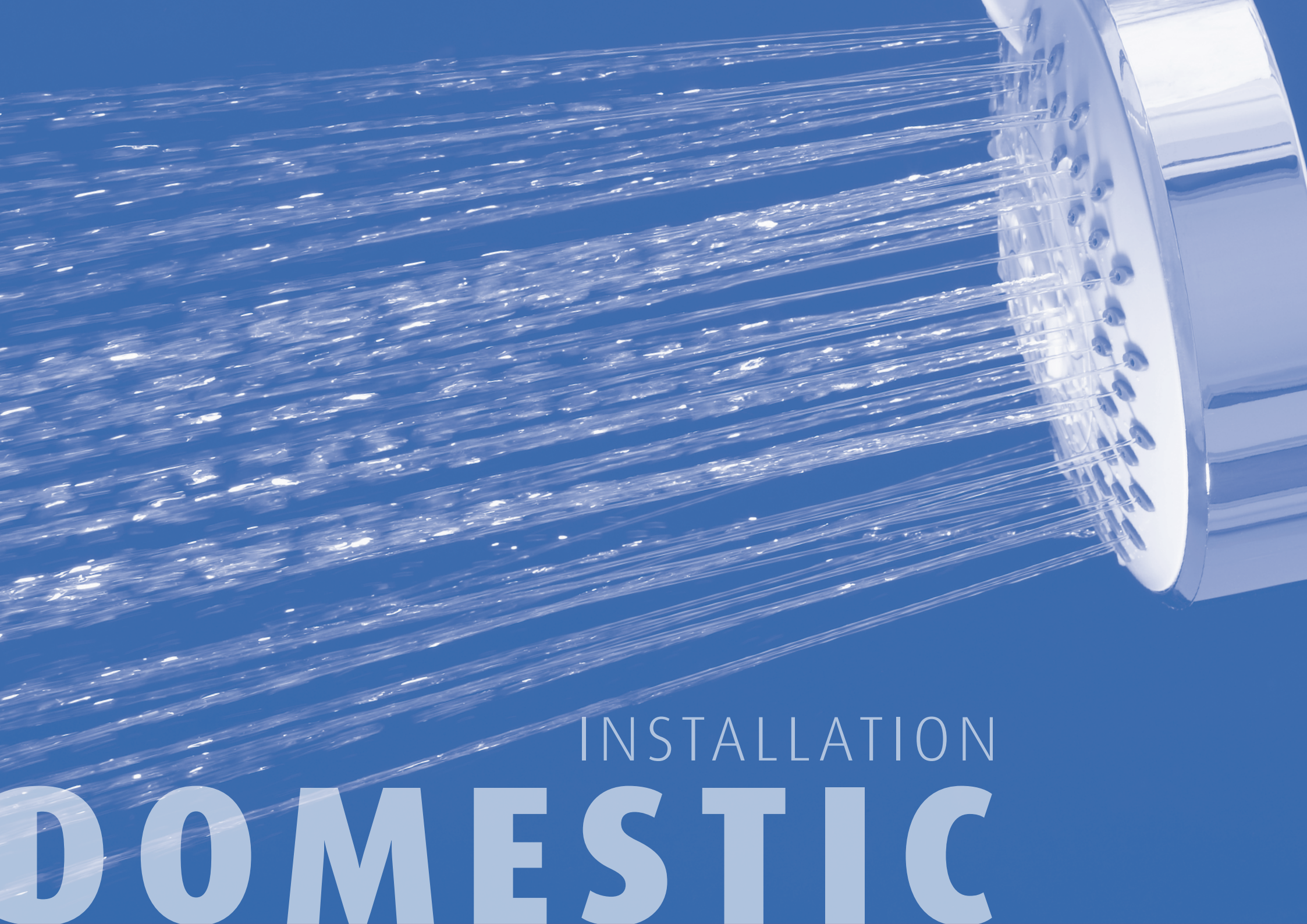
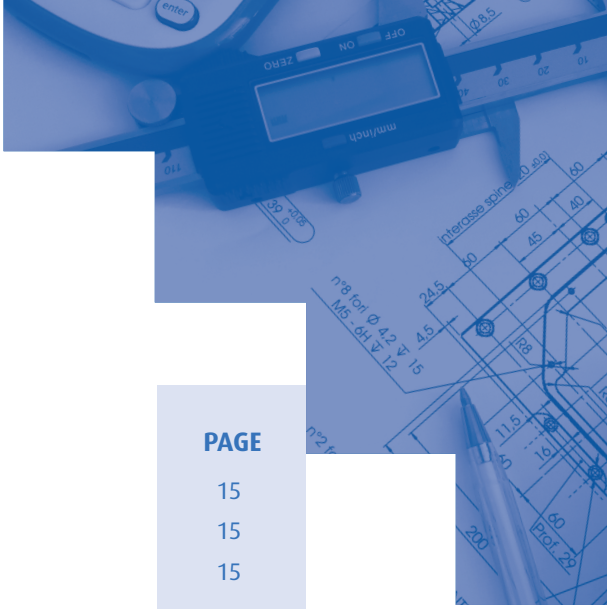


INSTALLATION

DOMESTIC

DOMESTIC
INSTALLATION GUIDE



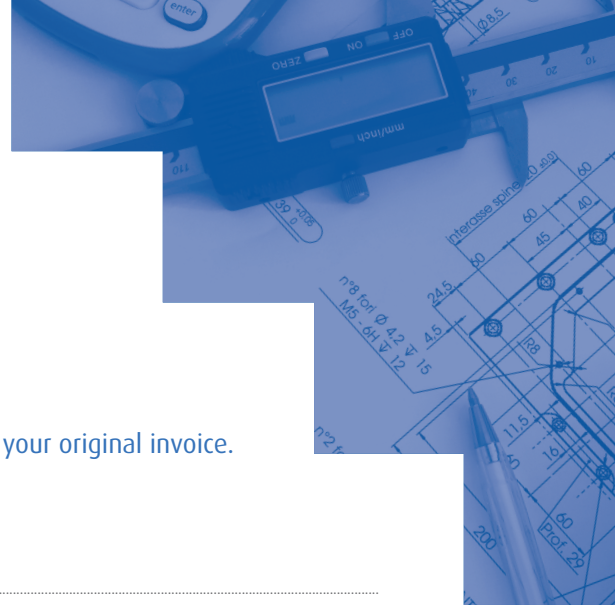
DOMESTIC INSTALLATION GUIDE

CONTENTS

		PAGE
Section 1:	Appliance Details	
1a:	Domestic Owner's Details	15
1b:	Installer's Details	15
1c:	Service History	15
Section 2:	Installation Details	
2a:	General Install Requirements	19
	2a1: Location	19
	2a2: Corrosion Protection	19
2b:	Air Flow	19
2c:	Evaporator Drain	19
2d:	Pressure and Temperature Relief (PTR) Valve	20
2e:	Expansion Control Valve (ECV)	20
2f:	Cold Water Connection	20
2g:	Pressure Reducing Valve	20
2h:	Caution Regarding Glass Lining of Tank	20
2i:	Suitability for Installation in Frost Areas	20
2j:	Hot Water Connection	20
2k:	Tempering Valves	21
2l:	Electrical Connection	21
	2l1: Safety Notes	21
2m:	Refrigeration Connections (Split Models Only)	21
	2m1: Refrigeration Tube Sizes	21
2n:	Caution Regarding Drilling the Outer Casing	22
Section 3:	Operating Instructions	
3a:	Filling the Water Heater	22
3b:	Water Quality	22
3c:	Caution When Left Operating but Unused	22
Appendix A:	Specifications and Dimensions	23
Appendix B:	Wiring Diagrams	24

List of Figures:

Figure 1A: Installation Diagram (Compact Systems)	16
Figure 1B: Basic Tank Layout with Recommended Valves (except Tempering)	17
Figure 1C: Domestic Installation Diagram	17
Figure 2: Installation Diagram (Split Systems)	18
Figure 3: Specifications and Dimensions	23
Figure 4: Split Fin Coil Evaporators	24
Figure 5: Wiring Diagram: 150/200-08ACW-134 & 270/340-11AC3-134	24
Figure 6: Wiring Diagram: 150/200-08ASW-134 & 340-17ASW-134 (340-TIH-134)	25
Figure 7: Wiring Diagram: 340-17ACW-134	25
Figure 8: Indicator 340-17ACW-134	26
Figure 9: Wiring Diagram – With Timer – 150/200-08ACW-134 & 270/340-11AC4-134	26
Figure 10: Wiring Diagram – With Timer – 150/200-08ASW-134 & 270/340-11AC4-134	27



Section 1: APPLIANCE DETAILS

For future convenience, please fill in the following details and retain with your original invoice.

1A: OWNER'S DETAILS

Surname: ..... Given Name(s): .....

Address: .....

Town/Suburb: .....

State/Territory: ..... Postcode: .....

Date of Purchase: .....

Purchased from: .....

Model: ..... Serial Number: .....

Date of Manufacture: .....
(Details on the Data Plate of the water heater)

1B: INSTALLER'S DETAILS

Date of Installation: ..... Installer's Name: .....

Address: .....

Licence number: ..... Installer's Signature: .....

1C: SERVICE HISTORY

Date of Service: ..... Serviced By: .....

Work Carried Out: .....

Signature of Service Agent: .....

Date of Service: ..... Serviced By: .....

Work Carried Out: .....

Signature of Service Agent: .....

Date of Service: ..... Serviced By: .....

Work Carried Out: .....

Signature of Service Agent: .....

Date of Service: ..... Serviced By: .....

Work Carried Out: .....

Signature of Service Agent: .....

Section 2: INSTALLATION DETAILS

FIGURE 1A: INSTALLATION DIAGRAM (COMPACT SYSTEM'S)

Recommended That 400mm distance is allowed above the top of the water heater.

Front Cover Must not be facing the wall

Power Cable (Not shown in photograph)

Pressure and Temperature Relief (PTR) Valve Should be connected to nearest drainage point *Note: the* **Hot Water Outlet** *is located close to the PTR Valve.*

Water Temperature Sensor located on the front of the tank

Fan Must be at least 500mm away from the wall, or facing away from the wall

Back Cover Must be at least 100mm away from the wall

Recommended Tank installed on a concrete plinth or poly slab

Australian Standard
AS2712 LIC.2650
SAI GLOBAL

WaterMark
AS3498 WMKA2531
SAI GLOBAL

FIGURE 1B: BASIC TANK LAYOUT WITH RECOMMENDED VALVES (EXCEPT TEMPERING)

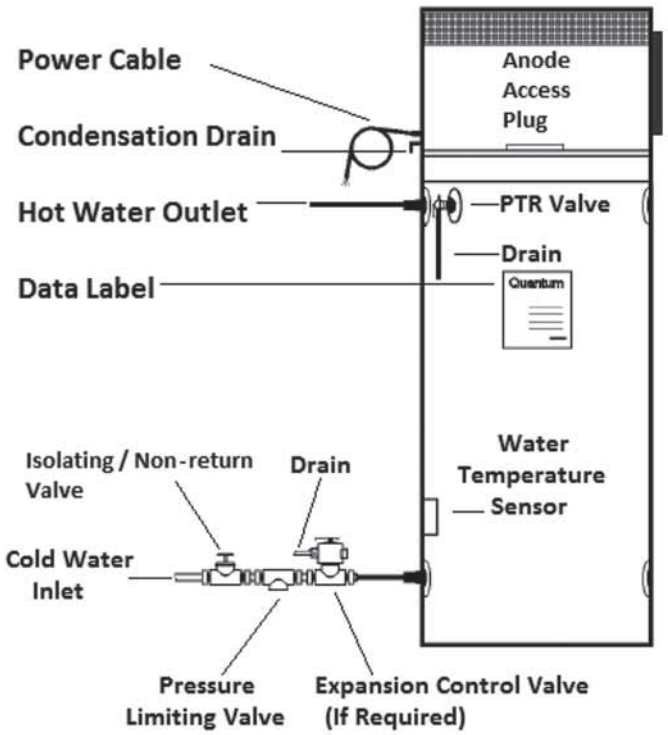
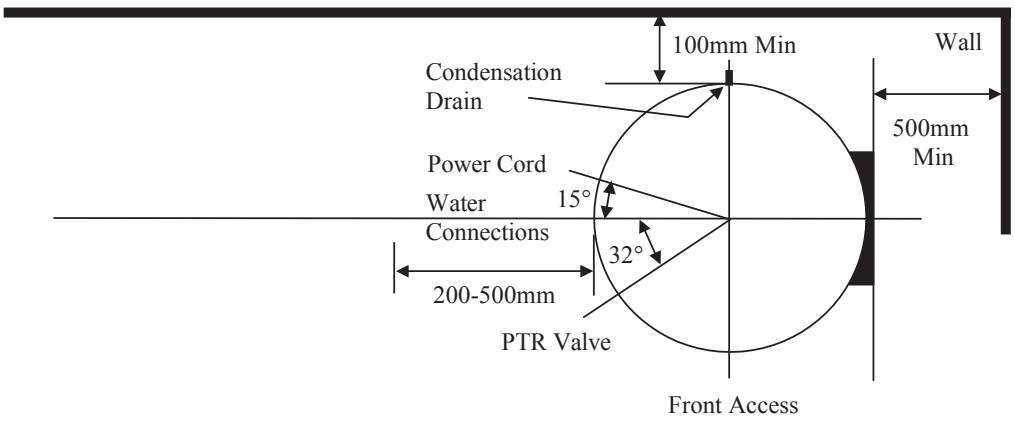
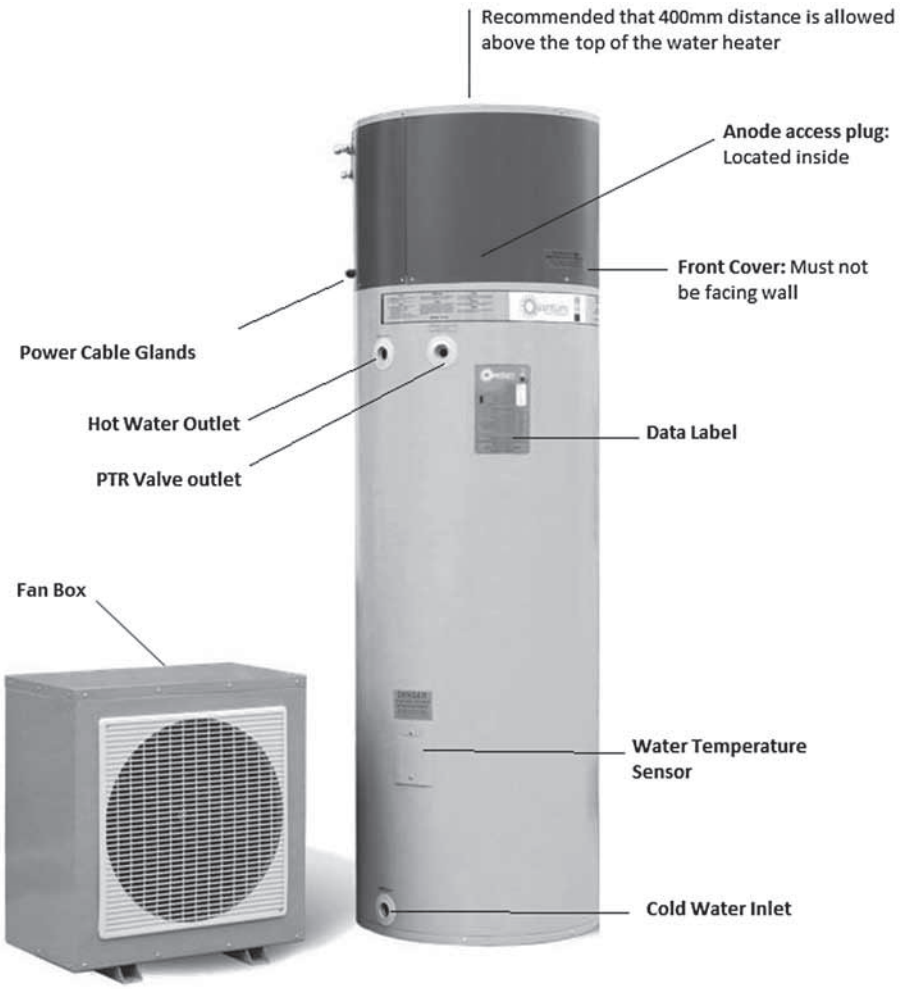


FIGURE 1C: DOMESTIC INSTALLATION DIAGRAM

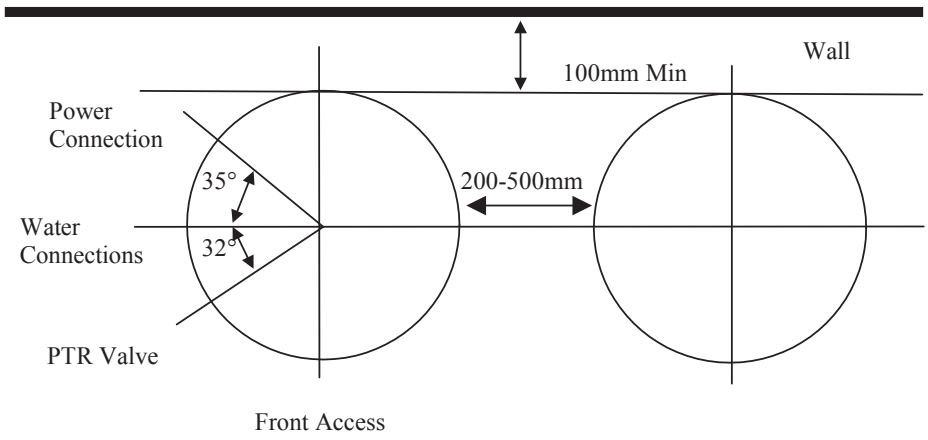


Tank Orientation Diagram for Compact Units (except Compact Titan)
Note: If installing multiple Compact units, the orientation of the tank will need to be at 90 degrees to the normal arrangement so that the fan points out from the wall rather than along it. This is so cold air being discharged from one unit is not drawn in by the one next to it.
The space between multiple units should be a minimum 200mm.

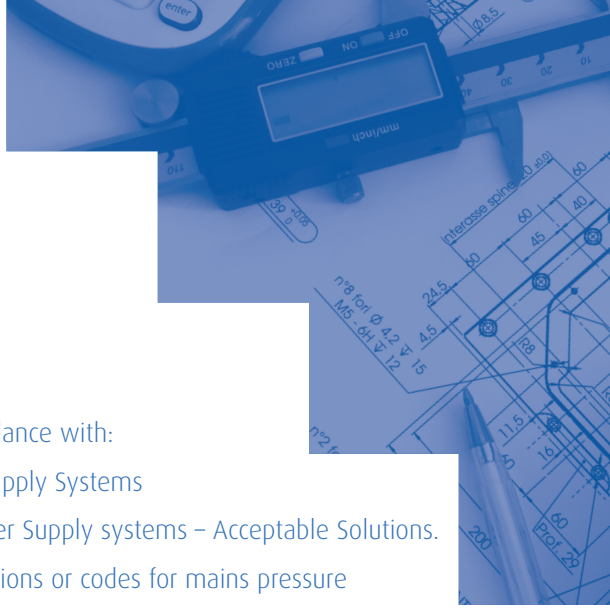
FIGURE 2: INSTALLATION DIAGRAM (SPLIT SYSTEM'S)


Recommended that 400mm distance is allowed above the top of the water heater
Anode access plug: Located inside
Front Cover: Must not be facing wall
Power Cable Glands
Hot Water Outlet
PTR Valve outlet
Data Label
Fan Box
Water Temperature Sensor
Cold Water Inlet

TANK ORIENTATION DIAGRAM FOR SPLIT UNITS



Note: The pipes connected to the water heater's cold water and hot water connections should not be a type that is flexible/soft. All refrigerant piping needs to be installed by a licensed refrigeration mechanic.



DOMESTIC INSTALLATION GUIDE

2a: General Install Requirements

This water heater must be installed by a licensed tradesperson, and in accordance with:

1. AS/NZ 3500.4 National Plumbing and Draining Code, Part 4: Hot Water Supply Systems
2. AS/NZ 3500.4.2, National Plumbing and Draining Code, Part 4.2: Hot Water Supply systems – Acceptable Solutions.
3. Other relevant Australian standards, industry or local water supply regulations or codes for mains pressure storage tanks.

***Installation within NZ must confirm to NZ Building Code G12.**

Note: This water heater is not suitable for pool or building heating.

2a1: Location

a. The water heater should be located as close as possible to the most frequently used hot water outlets.

b. Adequate access must be made for service to the heat pump, water thermostat, relief valve and anode.

c. Ensure that the specification label is clearly visible. The front service cover of the heat pump section (on top of tank) must be accessible from the front of the heater; this **MUST NOT** face the wall. The fan **MUST NOT** be up against a wall (minimum clearance 500mm).

d. The Compact model has a noise level similar to an air conditioner's outdoor unit (52dBA @ 1.5 metres); therefore locating the unit away from bedrooms or living areas is recommended (both the owner's & any neighbors).

e. Note: All models are equipped with a sacrificial anode, accessible through the top cover. We suggest allowing 400mm above the top of the water heater (if possible) for clearance to replace the anode.

The water heater should be placed on a 650mm x 650mm plinth if installed on a floor subject to wet conditions or outdoors. A properly drained overflow tray should be used where property damage could occur from water spillage. (See AS3500.4 for further details.)

Note: The warranty does not cover damage due to leakage of the water heater.

2a2: Corrosion Protection

a. Fittings and the shell surface in contact with the water are to be galvanically compatible.

b. Sealants and/or Teflon plumbing tape should be used on potentially galvanically incompatible fittings. This is to protect against possible electrolytic corrosion between the metals (where moisture penetration could occur due to incorrectly or poorly sealed fittings).

2b: Air Flow

a. The air source models (Compact and split) extract the required heat from air being drawn through their Fin Coil Evaporator. This produces cold exhaust air as a by-product. Therefore, good ventilation of the proposed location for the Compact models or the split models' separate evaporator is required.

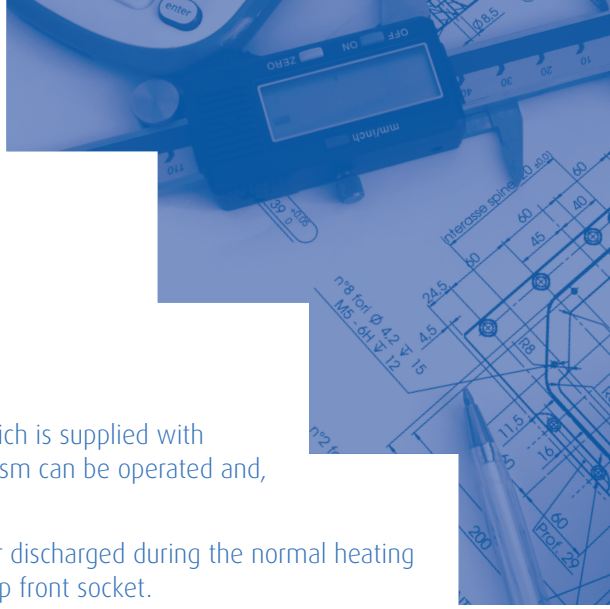
b. The Compact therefore is best located externally; however a large double garage (minimum of 120 cubic meters) with natural ventilation may also be acceptable. The separate evaporator in the split models could be located externally or in a large well-ventilated ceiling space or garage. **GOOD VENTILATION IS REQUIRED.**

2c: Evaporator Drain

a. The evaporator drain on both the Compact and Split Air units should be drained to a suitable location (as per AS/NZ 3500.4.2).

b. This can be accomplished with a length of hose or pipe but must not be connected directly to the PTR valve or expansion valve drain.

This is because during operation, a certain amount of condensate water will flow from the evaporator drain. If allowed to simply flow out of the outlet, this water may pool below the unit and can cause problems.



2d: Pressure and Temperature Relief (PTR) Valve

a. The Pressure and Temperature Relief Valve (see tank label for rating), which is supplied with the unit, must be fitted and made accessible so that the release mechanism can be operated and, if required, the valve replaced.

b. The outlet of the PTR Valve must be suitably drained to remove the water discharged during the normal heating cycle. The valve thread is RP ½"/15mm and must be installed into the top front socket.

Warning: A separate drain line must be run for this relief valve. It is not permitted to couple the drain lines from the relief valve and evaporator into a single common line. The use of a tundish under the evaporator drain with this then connected to the drain of the PTR valve is acceptable.

2e: Expansion Control Valve (ECV)

a. Where an Expansion Control Valve is fitted to the cold water supply, the ECV should be rated at 150kPa lower than the Pressure & Temperature Relief (PTR) Valve.

b. It is a State requirement for SA & QLD that an ECV be fitted on the cold water supply line between the non-return valve and the water heater.

2f: Cold Water Connection

a. An approved isolating valve, approved non-return valve and union must be fitted between the supply main and the RP ¾"/20mm socket in the water heater.

b. All fittings must be approved by the relevant Authority.

2g: Pressure Limiting Valve

a. This water heater is designed for direct connection to a maximum water supply pressure of 800kPa. Where the mains pressure can exceed or fluctuate beyond this pressure, a pressure-limiting device (complying with AS1357) must be fitted in the cold-water supply line.

b. This device must be installed after the isolating valve and set at or below 500kPa (or 350kPa if an 850kPa ECV is fitted).

c. An ECV is fitted when the water supply has a tendency to form scale. The fitting of an ECV is mandatory in WA, SA and some other areas of Australia as dictated by local regulations.

2h: Caution Regarding Glass Lining of Tank

a. When making the hot and cold water connections to the tank care should be taken not to apply excessive strain as damage to the tank spigots or glass lining may occur.

2i: Suitability for Installation in Frost Areas

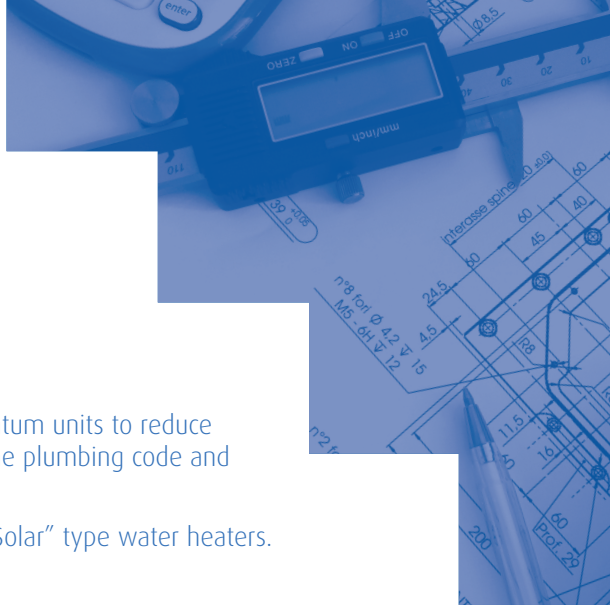
a. The R134a refrigerant used has a boiling point of -26°C. Therefore, there is no risk of damage to the heat pump from frost. Performance may be reduced in very low temperatures, but the system will not be damaged.

2j: Hot Water Connection

a. The hot water pipe should be connected to the RP ¾"/20mm socket as shown in the Installation Diagram (Figures 1 & 2).

b. It is recommended that all hot and cold water lines be insulated.

c. NOTE: Plugs are supplied with the water heater to plug off the inlet/outlet entries that are not required. Ensure that adequate sealing is applied to the plugs for a tight, leak-proof seal.



DOMESTIC INSTALLATION GUIDE

2k: Tempering Valves

a. The tempering valve should be fitted on the hot water outlet of the Quantum units to reduce water temperature to the temperature designated in (e.g., 50°C as per the plumbing code and Federal, State requirements.

b. Quantum recommends the use of high performance valves suitable for "Solar" type water heaters.

2l: Electrical Connection

a. Quantum water heaters are designed for single-phase 220-240V 50Hz A.C supply only. All electrical work must be conducted by a certified electrician according to the local regulations and AS3000. A 10 Amp or 15 Amp circuit breaker must be installed at the power supply for hot water units up to 0.8kW or 1.7kW, respectively. The power connection rating for Quantum water heaters up to 1.1kW is 220-240V 50Hz A.C 10 Amp, and 15 Amp for the 1.7kW models.

b. A separate circuit breaker is recommended for each unit in the case of multiple installations.

c. It is not recommended to wire the system to an earth leakage circuit breaker. There is lot of moisture present while in operation and this can lead to nuisance tripping.

d. The connection will require an approved, standard 240V On/Off switch or Junction Box in close proximity to the heater. The unit should be connected to Standard Domestic tariff. Off Peak connection is NOT recommended for Quantum heat pump units. If the unit is connected to an "Off Peak" connection, the minimum power availability must be at least 18 hours per day.

e. The fitted power cord is not to be removed; this cord should be connected with the building wiring in an On/Off switch enclosure or Junction Box. Faulty wiring may void the warranty if damage has been sustained to the compressor or heat pump from such faulty or sub-standard wiring. ***Please note that your Quantum Heat Pump is now fitted with a Digital Timer. (Not all models). For further information please contact the Quantum Service Call Centre on 1800 644 705.**

2l1: Safety Notes

Note 1: This water heater is fitted with a thermostat and over-temperature energy cut-out (both incorporated into the digital controller). Under no circumstances should the water heater be operated without both of these devices being in the circuit. Only a qualified electrician or the manufacturer should carry out replacement.

Note 2: If the supply cord is damaged, the manufacturer or its service agent or other similarly qualified person must replace it in order to avoid hazard.

Caution: The water heater must be filled with water before turning on the electricity.

2m: Refrigeration Connections (Split Models Only)

a. Refrigeration pipe work is highly specialised and should only be completed by a licensed refrigeration mechanic.

b. Maximum refrigeration pipe length from the tank connections to the evaporator is 10m.

c. If the evaporator is mounted below the tank connection point, then a suitable oil trap needs to be installed on the suction line between the evaporator and the heat pump.

2m1: Refrigeration tube sizes

QUANTUM MODEL	COPPER TUBE SIZE – INLET	COPPER TUBE SIZE – OUTLET	COPPER TUBE SIZE – OUTLET (if evaporator below tank level)
150/200-08ASW-134	5/16 Inch (8.0mm)	3/8 Inch (9.5mm)	5/16 Inch (8.0mm)
270/340-11AS4-134	5/16 Inch (8.0mm)	1/2 Inch (12.7mm)	3/8 Inch (9.5mm)
340-17ASW-134	3/8 Inch (9.5mm)	5/8 Inch (16.0mm)	1/2 Inch (12.7mm)

***When the evaporator is below tank level on the Titan model, use a 1/2 Inch (12.7mm) outlet tube.**

DOMESTIC INSTALLATION GUIDE

2n: Caution Regarding Drilling the Outer Casing

This is extremely important and **MUST** be adhered to without exception!

DO NOT DRILL ANY HOLES IN OUTER METAL CASING
DRILLING OF ANY HOLES WILL VOID WARRANTY

Section 3: OPERATING INSTRUCTIONS

3a: Filling the Water Heater

Open all hot water taps. Open isolating valve at the cold-water inlet and allow the water heater to fill until water flows through the system. Close each hot water tap after the air is expelled from its line.

3b: Water Quality

Your Quantum water heater has been manufactured to suit the water conditions of most Australian and New Zealand metropolitan supplies. Harsh water supplies can have a detrimental effect on the water heater and its life expectancy. If you are unsure about your water quality you can obtain information from your local water supply authority.

By using the correct anode, this water heater can be used in areas where the Total Dissolved Solids (TDS) content of the water supply is up to 2500 mg/L.

In areas where the TDS exceeds 750mg/L it is possible that the magnesium alloy anode (supplied in the heater) may become over reactive. To alleviate this, the magnesium alloy anode should be checked more regularly, and replaced if necessary. More information is given in the **Domestic Owner's Warranty Manual section on Pages 8-9.**

3c: Caution When Left Operating but Unused

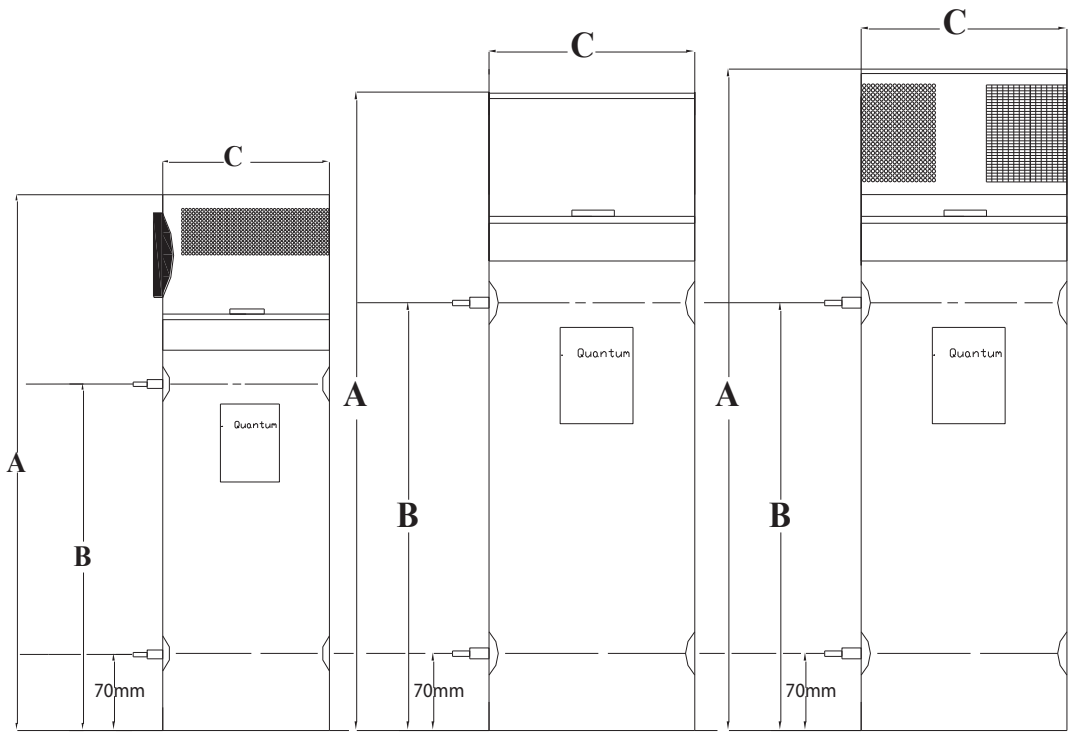
If the water heater is left in an operating condition, but unused for two weeks or more, hydrogen gas (highly flammable) may accumulate on top of the water cylinder. To dissipate this gas safely, it is recommended that:

- A hot tap be turned on for several minutes at a sink, basin or bath, but not a dishwasher, clothes washer or other appliance.
- During this procedure there must be no smoking, open flame or any other electrical appliance operating nearby.
- If hydrogen gas is discharged through the tap it will probably make an unusual sound similar to air escaping.

*Refer to www.quantumenergy.com.au for additional information.

Appendix A: SPECIFICATIONS AND DIMENSIONS

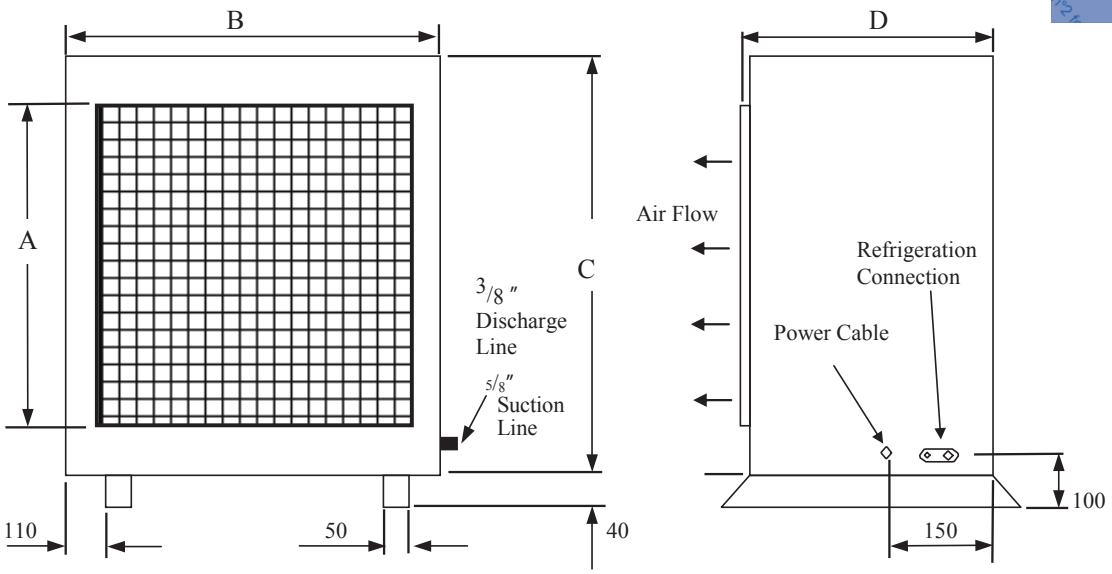
FIGURE 3: SPECIFICATIONS AND DIMENSIONS



MODEL NUMBER	MASS (EMPTY (KG)	MASS (FULL) (KG)	R134a Charge (gm)	DIMENSIONS(MM)			POWER INPUT (W)	NOMINAL CAPACITY (LT)
				A	B	C		
150-08ACW-134	100	250	1650	1620	975	540	660	125
200-08ACW-134	115	315	1650	1950	1305	540	660	175
270-11AC3/4-134	135	405	1850	1900	1190	650	986	250
340-11AC3/4-134	170	510	1850	2200	1490	650	986	315
340-17ACW-134	190	535	2650	2240	1490	650	1660	315
150-08ASW-134	90	240	1650	1545	975	540	660	125
200-08ASW-134	105	305	1650	1875	1305	540	660	175
270-11AS4-134	120	390	1850	1765	1190	650	986	250
340-11AS4-134	155	495	1850	2060	1490	650	986	315
340-17ASW-134 340TIH-134	165	505	2650	2110	1490	650	1660	315

MODEL	EVAPORATOR DIMENSIONS	EVAPORATOR WEIGHT	EVAPORATOR FAN NOISE @1.5 MTR	AIR FLOW LITRES/SECOND(W)
150/200-08ACW-134	Internal	N/A	50dBA	415
270/340-11AC3/4-134	Internal	N/A	52dBA /48dBA	550
340-17ACW-134	Internal	N/A	58dBA	800
150/200-08ASW-134	430× 380× 120	15kg	48dBA	460
270/340-11AS4-134	480× 430× 120	18kg	50dBA	600
340-17ASW-134	655× 580× 380mm	35kg	58dBA	880

FIGURE 4: SPLIT EVAPORATOR – FINNED COIL



Model	Dimensions (mm)			
	A	B	C	D
150/200-08ASW-134	440	445	445	310
270/340-11AS4-134	440	510	485	330
340-17ASW-134 (340TIH-134)	500	635	660	440

A Quantum Technician or an accredited qualified refrigeration technician must install the Split Finned model. Whilst the plumbing and electrical work is the same as the Compact, this unit also requires on site refrigeration work.

Appendix B: WIRING DIAGRAMS

FIGURE 5: WIRING DIAGRAM: 150/200-08ACW-134 & 270/340-11AC3-134

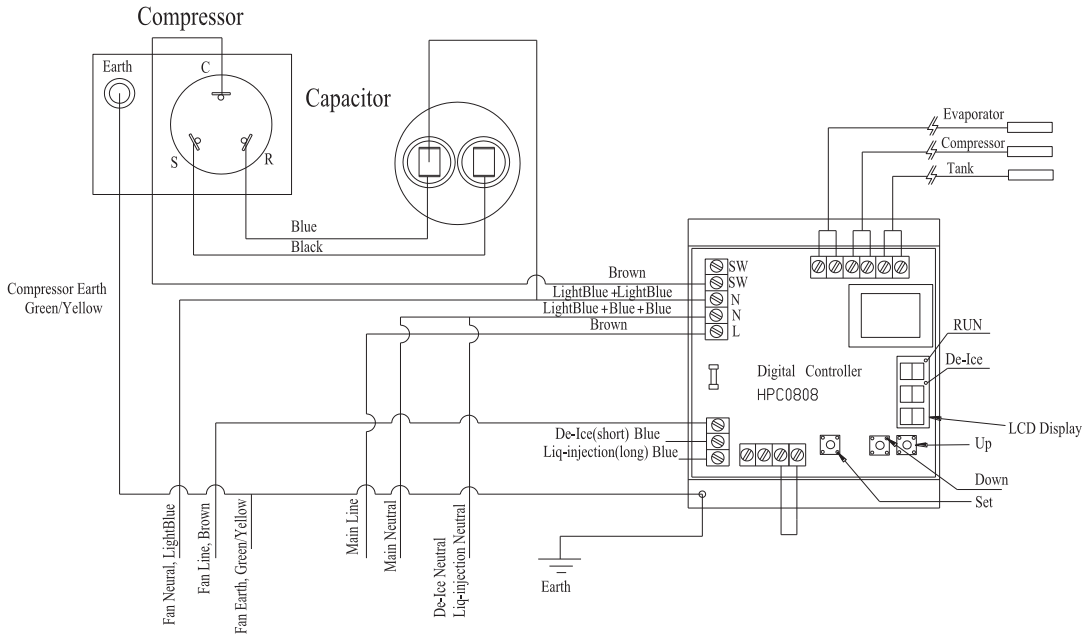


FIGURE 6: WIRING DIAGRAM: 150/200-08ASW-134 & 340-17ASW-134 (340-TIH-134)

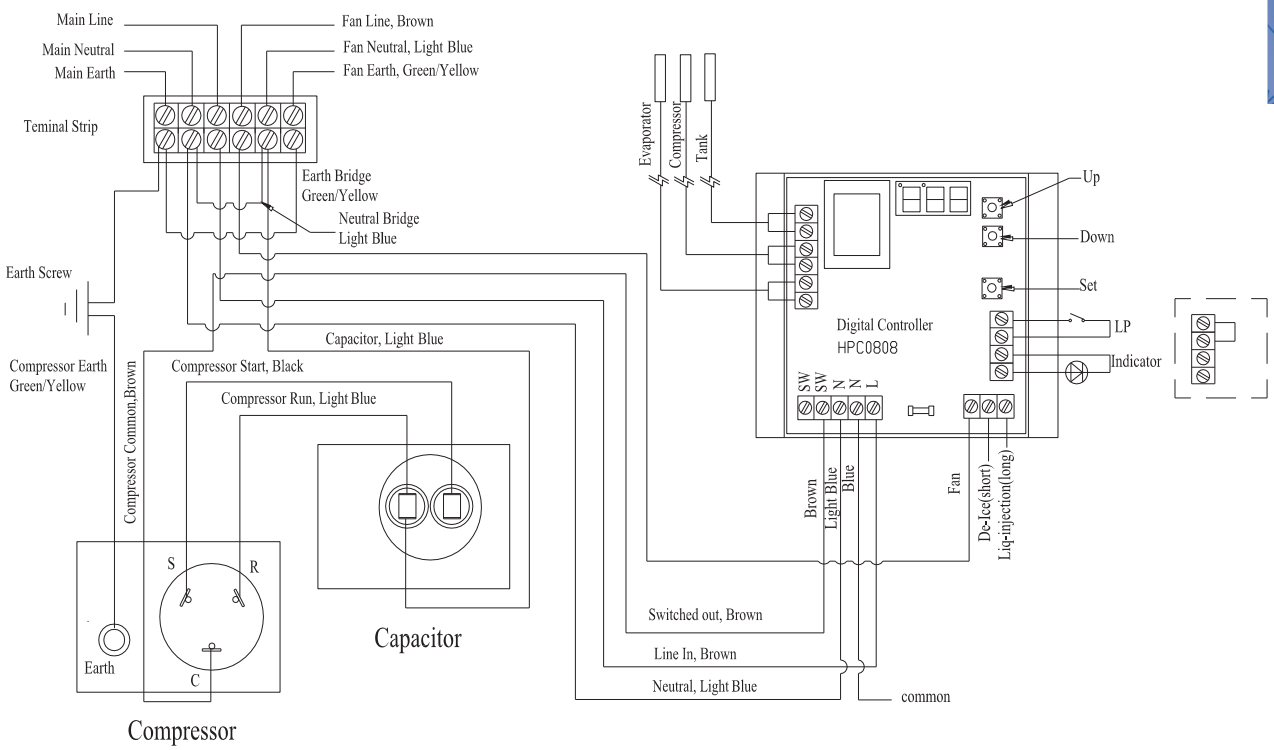


FIGURE 7: WIRING DIAGRAM: 340-17ACW-134

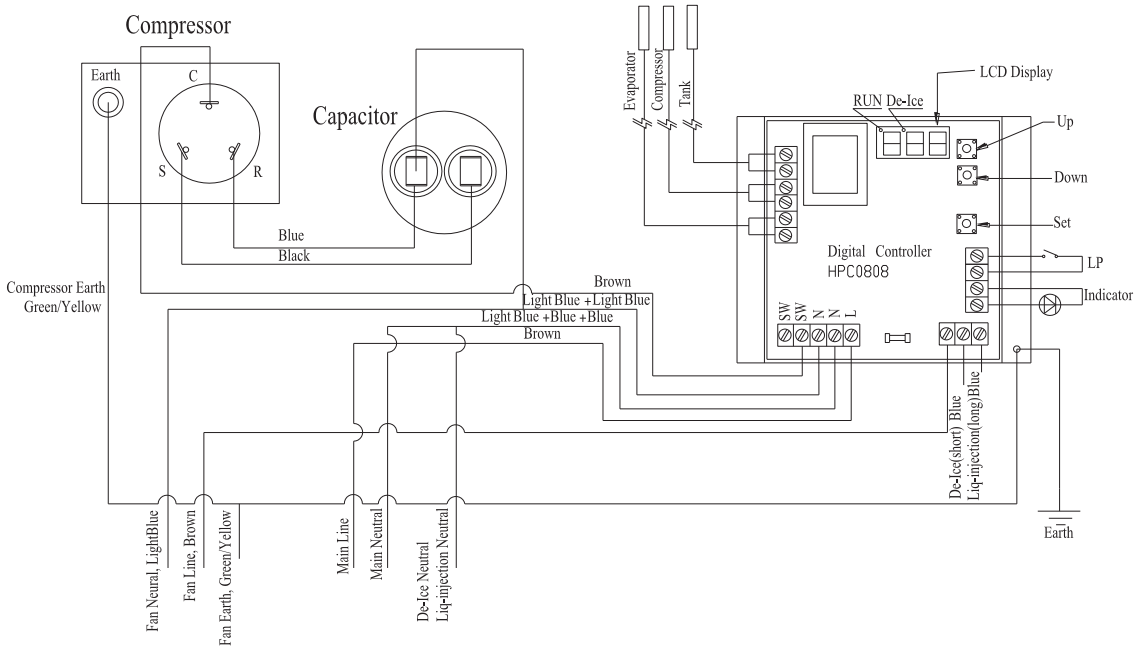


FIGURE 8: INDICATOR 340-17ACW-134

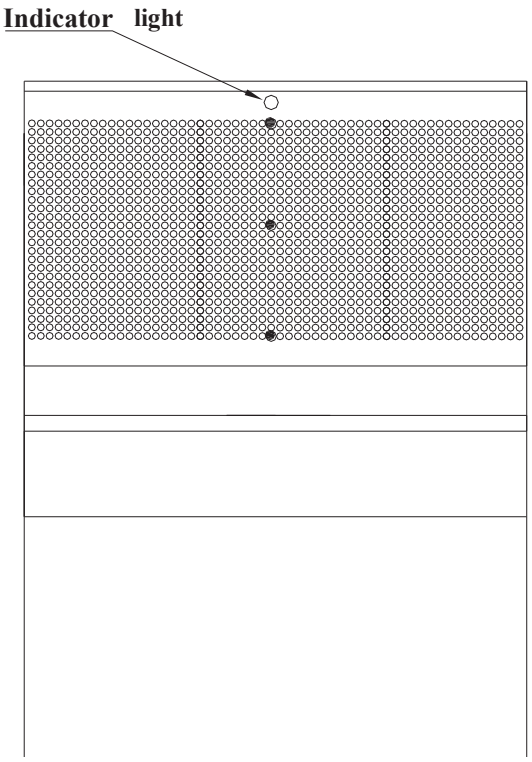


FIGURE 9: WIRING DIAGRAM – WITH TIMER: 150/200-08ACW-134 & 270/340-11AC4-134

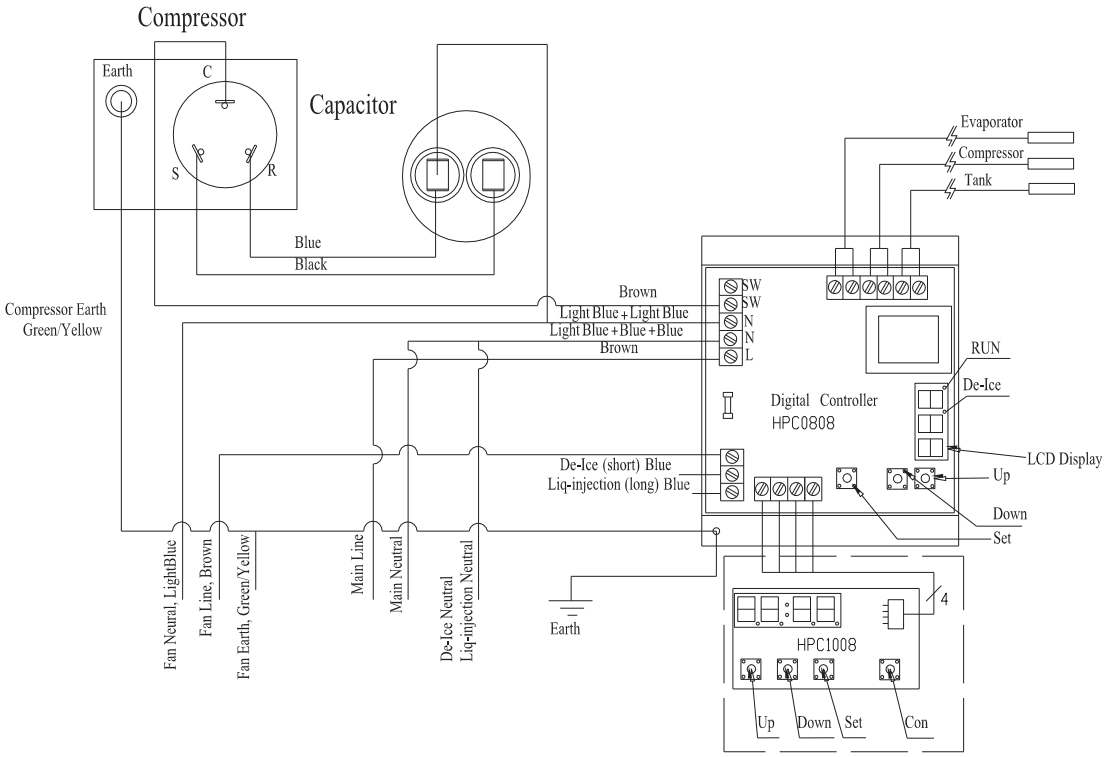
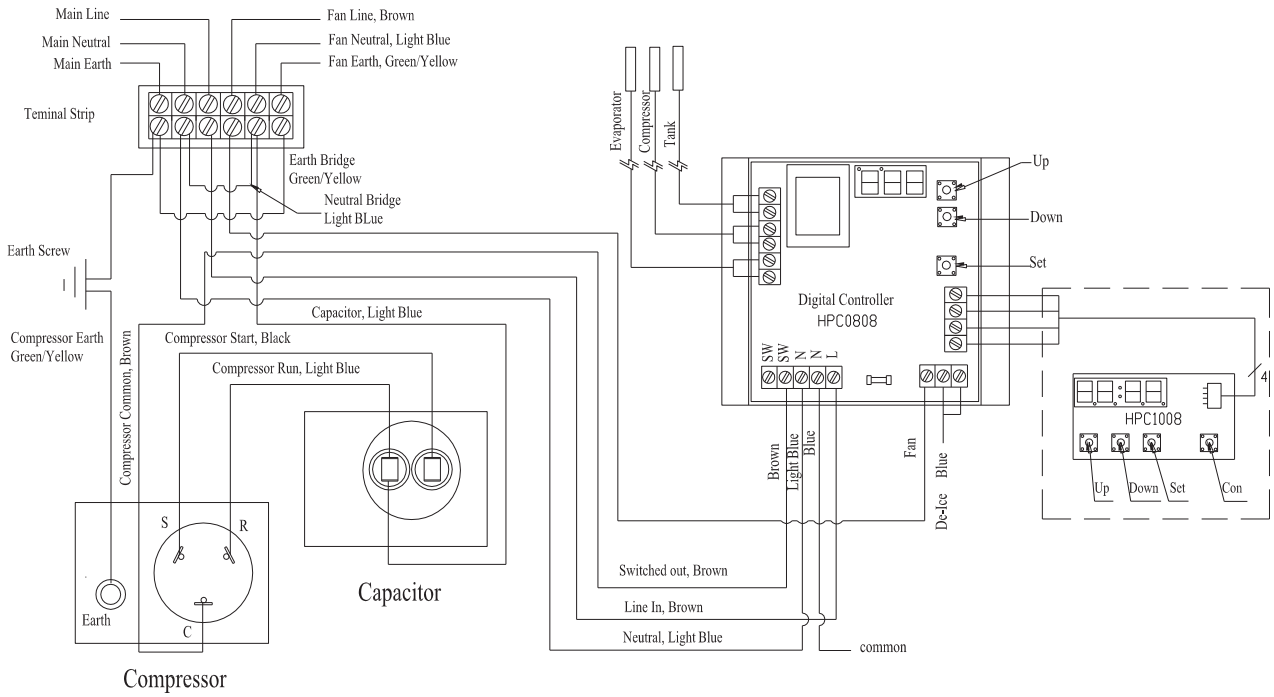


FIGURE 10: WIRING DIAGRAM – WITH TIMER: 150/200-08ASW-134 & 270/340-11AS4-134



NOTES

Australian Standard
AS2712 LIC.2650
SAI GLOBAL

WaterMark
AS3498 WMKA2531
SAI GLOBAL

NOTES

*All the information was correct at the time of going to print. Quantum reserves the right to change the information at any time.
For further information please visit www.quantumenergy.com.au

PERFORATION – PLEASE DO NOT PRINT

WARRANTY CARD

To ensure we provide the best service we can to our valued customers, please fill out and return this warranty card to Quantum Energy Technologies - PO Box 553, Strawberry Hills, NSW 2012 or alternatively you can complete online at **www.quantumenergy.com.au**

System Details

Model No: ..... Serial No: ..... Date of Installation: .....

Owner Details

Full Name: .....

Installed Street Address: .....

.....

Suburb: ..... State: .....

Post Code: ..... Country: .....

Daytime Contact Numbers

H: ..... M: ..... W: .....

Installers Details

Company Name: .....

Installers Name: .....

Plumbers License No: .....

Suburb: ..... State: .....

Post Code: ..... Country: .....

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